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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
BUTTE DIVISION

CENTER FOR BIOLOGICAL DIVERSITY;
WESTERN WATERSHEDS PROJECT;
GEORGE WUERTHNER; PAT MUNDAY,

Plaintiffs,

v.

SALLY JEWELL, Secretary, U.S. Department
of the Interior, in her official capacity; DAN
ASHE, Director, U.S. Fish and Wildlife
Service, in his official capacity; and UNITED
STATES FISH AND WILDLIFE SERVICE,

Defendants.

Case No. CV-15-4-BU-SEH

**COMPLAINT FOR
DECLARATORY AND
INJUNCTIVE RELIEF**

INTRODUCTION

1. This case challenges the United States Fish and Wildlife Service's ("FWS") decision on August 20, 2014 not to list the distinct population segment of Arctic Grayling in the Upper Missouri River Basin as a threatened species under the Endangered Species Act ("ESA"). 79 Fed. Reg. 49,384 (Aug. 20, 2014) ("12-Month Finding").

2. The upper Missouri River basin population of Arctic grayling has lost nearly all its historic habitat and its population numbers have plummeted. Arctic grayling once occupied rivers throughout the upper Missouri River basin in Montana and, to a small extent, Wyoming—including the Missouri mainstem, Smith, Sun, Jefferson, Madison, Gallatin, Big Hole, Beaverhead, and Red Rock rivers and their tributaries—and in Michigan. Today, native populations of the grayling survives in just 181 miles of the Big Hole River, a few small lakes in the area, and a reintroduced, still-small population in the Ruby River.

3. Surviving Arctic grayling face a barrage of threats, including low flows and barriers in river channels, rising water temperatures, increased pressure from nonnative fish, and a very low population. These threats are even more significant because of the current and predicted impacts of a changing climate,

which are expected to even further reduce water flows and raise water temperatures.

4. Because of these threats, FWS determined less than five years ago that federal ESA protection was necessary to ensure that Arctic grayling did not go extinct in the lower-48 states. See Revised 12-Month Finding To List the Upper Missouri River Distinct Population Segment of Arctic Grayling as Endangered or Threatened, 75 Fed. Reg. 54,708 (Sept. 8, 2010). FWS based this determination on, among other things, persistent low population numbers; the lack of success in reintroducing Arctic grayling to river environments; a lack of suitable habitat, including cold water; and population viability analyses that placed a significant risk of extinction within a 30-year window on most sub-populations in the upper Missouri River basin.

5. In the challenged decision, however, FWS has reversed its 2010 conclusion that listing was warranted and instead determined that the Upper Missouri River population of Arctic grayling does not warrant listing. FWS based this reversal almost exclusively on voluntary conservation measures that it hopes will sufficiently address existing threats.

6. Voluntary conservation measures and actions by the state, however well-intentioned, have not put enough water back in the Big Hole River to sustain a

healthy population of Arctic grayling in areas where they currently exist. These steps also have not allowed Arctic grayling populations to rebound and recolonize their lost range. Furthermore, because these conservation efforts are voluntary, there is no guarantee that even these inadequate measures will continue.

Therefore, federal protection is required to ensure this remarkable fish species is not lost from Montana's rivers.

7. Because FWS's challenged decision violated the ESA, this Court should vacate that decision and remand it to the agency for a new decision that is consistent with governing law.

JURISDICTION, VENUE AND ADMINISTRATIVE REMEDIES

8. This action is brought pursuant to the Endangered Species Act, 16 U.S.C. § 1540(g)(1)(C), which waives the defendants' sovereign immunity. This Court has jurisdiction over plaintiffs' claims pursuant to 28 U.S.C. § 1331 (federal question) and may issue a declaratory judgment and further relief pursuant to 28 U.S.C. §§ 2201-02.

9. Venue is proper in this District under 28 U.S.C. § 1391 because a substantial part of the ESA violations alleged in this complaint occurred in this district and the majority of the historic range of Upper Missouri River Arctic

grayling, including the grayling-occupied portion of the Big Hole River, is located in this District.

10. Plaintiffs provided defendants with 60 days' written notice of plaintiffs' intent to sue on December 4, 2014, as required by 16 U.S.C. § 1540(g)(2).

PARTIES

11. Plaintiff Center for Biological Diversity (the "Center") is a nonprofit organization dedicated to the preservation, protection and restoration of biodiversity, native species and ecosystems. The Center was founded in 1989 and is based in Tucson, Arizona, with offices throughout the country. The Center works through science, law, and policy to secure a future for all species, great or small, hovering on the brink of extinction. The Center is actively involved in species and habitat protection issues and has more than 50,000 members throughout the United States and the world. The Center brings this action on its own institutional behalf and on behalf of its members. Many of the Center's members and staff reside near, and explore and recreate in, the streams, rivers, and lakes currently and formerly occupied by Arctic grayling. Members and staff of the Center seek to observe, photograph, and study the Arctic grayling and its native habitat.

12. Plaintiff Western Watersheds Project (“WWP”) is a non-profit membership organization dedicated to protecting and conserving the public lands and natural resources of watersheds in the American West. Headquartered in Hailey, Idaho, WWP has over 1,500 members, including many members who live in Montana. WWP, as an organization and on behalf of its members, is active in seeking to protect and improve the riparian areas, water quality, fisheries and other natural resources and ecological values of western watersheds. WWP and its individual members have an interest in ensuring the conservation and recovery of the Montana fluvial Arctic grayling through the grayling’s listing under the ESA. WWP, its members and staff regularly use lands and intend to continue to use the waters and lands throughout the western United States, including the habitat and potential habitat of the Montana fluvial Arctic grayling, for observation, research, health, aesthetic enjoyment, and other recreational, scientific, and educational activities. WWP’s members derive scientific, recreational, health and aesthetic benefits from the Montana fluvial Arctic grayling’s existence in the wild.

13. Plaintiff George Wuerthner is an active WWP member who worked with Jasper Carlton to draft and file the petition to list the Montana fluvial Arctic grayling in 1991. Mr. Wuerthner is a long-time Montana resident and fly fishing guide, who has long advocated for the protection of native fish in Montana,

including the Montana fluvial Arctic grayling. Mr. Wuerthner has guided and fished recreationally on many rivers in Montana, including the Big Hole and Upper Missouri rivers—which are habitat, or potential habitat, for fluvial Arctic grayling—and intends to do so in the future.

14. Plaintiff Pat Munday, PhD, is an active member of the Center, who lives in Walkerville, Montana. Dr. Munday is a professor at Montana Tech University in Butte, Montana. He enjoys boating and fishing Montana's rivers, including the Big Hole River and the Upper Missouri river and its tributaries. Mr. Munday has a long history of actively working to protect the fluvial Arctic grayling in the Big Hole River. He was president of the George Grant Chapter of Trout Unlimited from 2002-2003, and executive director of the Big Hole River Foundation from 1997-1998. From 1996-2006, he was a board member of both groups and represented them regarding native species issues, such as protection and restoration of fluvial Arctic grayling in the Big Hole River. This included grant writing, writing and submitting the organizations' comments and concerns to state and federal agencies, writing articles for newsletters, and speaking at public meetings and forums. From 1996-2005, Dr. Munday was also the Big Hole River Foundation's representative on the Big Hole Watershed Committee.

15. Plaintiffs, their staff, and members use and enjoy the waters and lands of the state of Montana, in particular the Missouri River basin and the Big Hole River, for recreational, scientific, aesthetic, and commercial purposes. Plaintiffs, their staff and members, derive or, but for the declining status of the Arctic grayling in Montana, would derive recreational, scientific, aesthetic, and other benefits from the existence in the wild of Arctic grayling—both fluvial and adfluvial—through observation, study, photography, and recreational and commercial fishing. The past, present, and future enjoyment of these benefits by plaintiffs and their members has been, is being, and, unless the relief requested in this complaint is granted, will continue to be irreparably harmed by defendants' arbitrary and capricious refusal to protect Montana's Arctic grayling under the ESA.

16. The legal violations alleged in this complaint cause direct injury to the aesthetic, conservation, recreational, inspirational, educational, and wildlife preservation interests of plaintiffs and members of the plaintiff organizations. These are actual, concrete injuries to plaintiffs, caused by defendants' failure to comply with the ESA and its implementing regulations and policies. These injuries would be redressed by the relief requested in this complaint. Plaintiffs have no other adequate remedy at law.

17. Defendant Sally Jewell is the United States Secretary of the Interior. In that capacity, Secretary Jewell has supervisory responsibility over the United States Fish and Wildlife Service. The Secretary of the Interior is the federal official vested with responsibility for properly carrying out the ESA with respect to Arctic grayling. Defendant Jewell is sued in her official capacity.

18. Defendant Dan Ashe is the Director of the United States Fish and Wildlife Service. Defendant Ashe is sued in his official capacity.

19. Defendant United States Fish and Wildlife Service is a federal agency within the Department of Interior. FWS is responsible for administering the ESA with respect to Arctic grayling, including species listing determinations under ESA Section 4.

THE ENDANGERED SPECIES ACT

20. The ESA was enacted to “provide a program for the conservation of ... endangered species and threatened species” and to “provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. § 1531(b).

21. The ESA is a call to species protection: a commitment, in the words of the U.S. Supreme Court, “to halt and reverse the trend toward species extinction—whatever the cost” by rejecting the “economic growth and development

untempered by adequate concern and conservation” that gave this country its legacy of extinctions. Tennessee Valley Auth. v. Hill, 437 U.S. 153, 154 (1978); 16 U.S.C. § 1531(a)(1).

22. To be protected by the ESA’s conservation program, a species must first be listed under the ESA as endangered or threatened. The ESA defines “endangered species” as “any species which is in danger of extinction throughout all or a significant portion of its range.” Id. § 1532(6). A “threatened species” is “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” Id. § 1532(20). The term “species” is defined to include “any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” Id. § 1532(16). Under these definitions, FWS can list as endangered or threatened a distinct population segment (“DPS”) of a vertebrate fish species.

23. Under the ESA, the “significant portion” language justifies listing of a species “if there are major geographical areas in which it is no longer viable but once was.” Defenders of Wildlife v. Norton, 258 F.3d 1136, 1145 (9th Cir. 2001). Further, where a species has suffered historical range contraction or is unlikely to survive in a “sizeable portion of its current habitat,” this statutory language places a burden on FWS to rationally explain why such lost habitat does not constitute a

“significant portion of its range.” Colo. River Cutthroat Trout v. Salazar, 898 F. Supp. 2d 191, 201-204 (D.D.C. 2012); see also Defenders of Wildlife, 258 F.3d at 1145 (where “area in which the lizard is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a ‘significant portion of its range’”).

24. In 2014, FWS promulgated a “Final Policy on Interpretation of the Phrase ‘Significant Portion of Its Range’ in the ESA’s Definitions of ‘Endangered Species’ and ‘Threatened Species.’” 79 Fed. Reg. 37,578 (July 1, 2014). Contrary to the ESA and established precedent, this policy announced FWS’s interpretation of its ESA mandate to evaluate a species’ risk of extinction “throughout all or a significant portion of its range,” 16 U.S.C. § 1532(6), to exclude consideration of threats within historical, but currently unoccupied, range. 79 Fed. Reg. at 37,583.

25. In making decisions to list a species, including a DPS, the ESA requires the Secretary to “determine whether the species is an endangered species or a threatened species because of any of the following factors:

- a. the present or threatened destruction, modification, or curtailment of its habitat or range;
- b. overutilization for commercial, recreational, scientific, or educational purposes;
- c. disease or predation;

- d. the inadequacy of existing regulatory mechanisms; or
- e. other natural or manmade factors affecting its continued existence.”

16 U.S.C. § 1533(a)(1).

26. In passing the ESA, Congress made clear that species must be protected by adequate regulatory mechanisms. This requires the Secretary to exercise her discretion so as to provide adequate protection to any species that is or may become endangered. The ESA allows FWS to enter into cooperative agreements with states to conserve endangered species, but only if it ensures that the state has an adequate and active program that among other things provides authority to conserve endangered species. Id. § 1535(c)(1).

27. FWS in 2003 adopted a policy for evaluating non-regulatory conservation efforts that is designed to assure the requisite level of certainty that such efforts will actually be implemented. See Policy for Evaluation of Conservation Efforts When Making Listing Decisions, 68 Fed. Reg. 15,100, 15,104 (Mar. 28, 2003) (“PECE”) (stating that the PECE is designed to “set a rigorous standard for analysis and assure a high level of certainty associated with formalized conservation efforts....”). Under this policy, FWS cannot rely on conservation efforts to eliminate the need for listing unless it is “certain that the formalized conservation effort improves the status of the species at the time [it]

make[s] a listing determination.” Id. at 15,101 (emphasis added). To this end, the PECE requires FWS to assess the adequacy of existing conservation efforts based on two factors—(1) “the certainty of implementing the conservation effort” and (2) “the certainty that the effort will be effective,” id. at 15,113—and provides specific criteria for each of those assessments.

28. The ESA provides for a species to be listed at the Secretary of the Interior’s own initiative, or the public may submit a petition to the Secretary of the Interior to list a species which requires the Secretary to respond. 16 U.S.C. § 1533(b)(3). If FWS finds that a petition presents substantial scientific or commercial information indicating that a listing “may be warranted,” FWS must commence a 12-month review of the petition and other relevant information. Id. A “may be warranted” determination must be published in the Federal Register and FWS must conduct a “status review” and solicit public comments for consideration in its final decision. Id. At the close of the 12-month status review period, FWS must determine whether the petitioned action is: (i) not warranted, (ii) warranted, or (iii) warranted but precluded by higher listing priorities. Id.

29. FWS must base its listing determinations “solely on the basis of the best scientific and commercial data available to [the agency] after conducting a review of the status of the species.” Id. § 1533(b)(1)(A).

30. Courts interpreting these statutory provisions have repeatedly held that “failure by the agency to utilize the best available science is arbitrary and capricious.” Consol. Delta Smelt Cases, 717 F. Supp. 2d 1021, 1060 (E.D. Cal. 2010); see also Rock Creek Alliance v. U.S. Fish and Wildlife Serv., 390 F. Supp. 2d 993, 1009 (D. Mont. 2005). An agency’s failure to draw rational conclusions from the evidence before it also constitutes arbitrary and capricious action. Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983); see also Greater Yellowstone Coal., Inc. v. Servheen, 665 F.3d 1015, 1030 (9th Cir. 2011) (affirming district court order setting aside FWS’s decision to delist Yellowstone grizzly bears because “[t]he Rule did not articulate a rational connection between the data before it and its conclusion”).

ARCTIC GRAYLING

I. DESCRIPTION OF THE SPECIES

31. The Arctic grayling (Thymallus arcticus) is a member of the family Salmonidae, which contains salmon, trout, char and whitefishes. Grayling have long, trout-like bodies with deeply forked tails and a sail-like dorsal fin. Adults typically average 12-15 inches in length.



32. Arctic grayling are native to Arctic Ocean drainages of Alaska and northwestern Canada, and across northern Eurasia as far west as the Ural Mountains. Two populations of Arctic grayling were also native to the coterminous U.S.: one in the upper Missouri River basin that is the subject of this litigation and a separate population in Michigan that went extinct in the 1930s. The upper Missouri River basin population is an Ice Age relict that is physically and reproductively isolated from northern populations of Arctic grayling for millennia.

33. Arctic grayling have two general life-history forms: Fluvial (river or stream-dwelling) and adfluvial (lake-dwelling). Historically the fluvial form predominated in the Missouri River basin with only a few native adfluvial populations.

34. Fluvial and adfluvial Arctic grayling are not interchangeable.

Because adfluvial types and their progeny do not typically hold their position in flowing water, as do fluvial grayling, introductions of adfluvial types to rivers have not succeeded. In the challenged decision, FWS found that “the frequent failure of introductions of adfluvial Arctic grayling into fluvial habitats suggest a cautionary approach to the loss of particular life-history forms is warranted.” 79 Fed. Reg. at 49,392.

35. Arctic grayling require clear, cold water—optimal thermal habitat is between 45 and 63 degrees Fahrenheit, and habitat becomes unsuitable above 68 degrees Fahrenheit. In Montana, grayling generally spawn in the spring or early summer, from late April to mid-May, by depositing adhesive eggs over gravel substrate without excavating a nest.

36. Grayling are migratory fish, whose year consists of cyclic movement between refuge, rearing-feeding, and spawning habitats. In the Big Hole River, grayling migrate long distances to overwintering habitat and migrate to colder tributary streams in summer when the mainstem of the Big Hole becomes too warm.

37. Grayling were once abundant in all of the major rivers of the upper Missouri basin, including the Missouri mainstem, Smith, Sun, Jefferson, Madison,

Gallatin, Big Hole, Beaverhead, and Red Rock Rivers and their tributaries, along with adfluvial populations in a small number of lakes, including Red Rock Lakes in the Centennial Valley and Elk Lake. The distribution of native grayling went through a dramatic reduction in the 20th century, especially the fluvial populations. Today, there are just five remaining populations of grayling, with the sole fluvial population limited to 181 miles of the Big Hole River and its tributaries. There are adfluvial populations in and above Ennis Reservoir in the Madison River, Miner Lakes, Mussigbrod Lake and Red Rock Lakes. The former fluvial populations in the Smith, Sun, Jefferson, Beaverhead, Gallatin and mainstem Missouri Rivers are extirpated.

38. The native fluvial grayling populations in the Big Hole and adfluvial grayling populations in the upper Madison, Red Rock Lakes and Elk Lake are precariously small and currently occupy less than 4 percent of their historical range in the Upper Missouri River basin. Efforts to reintroduce grayling to the Ruby River have had limited success, with some reproduction taking place, but the Ruby River population is still too small to be self-sustaining, despite FWS's claims in the 12-Month Finding that this population may be viable. There is significant evidence that both the Big Hole and Madison River populations underwent severe declines in recent years. In 2010, FWS concluded that "the best available data"

shows the Big Hole population “declined by one half between the early 1990s and the early 2000s,” and found the Madison population to “currently exist at only 10 to 20 percent of the abundance observed in the early 1990s.” 75 Fed. Reg. at 54,723. Although FWS’s 12-Month Finding concluded that some of Montana’s Arctic grayling populations have grown, recent monitoring reports contradict this conclusion. Further, all available data—including FWS’s own estimates—indicate that the Madison River population continues to decline.

II. VOLUNTARY CONSERVATION EFFORTS

39. Ongoing efforts to restore Arctic grayling and their habitat have not brought fluvial Arctic grayling back from the brink of extinction. FWS’s 12-Month Finding focused on conservation efforts in place for the Arctic grayling, primarily the Big Hole River Candidate Conservation Agreement with Assurances (“CCAA”).

40. The CCAA invites landowners in the upper Big Hole River drainage—the last remaining native refuge for fluvial Arctic grayling in the contiguous United States—to enter into voluntary conservation plans designed to improve grayling habitat. Specifically, the CCAA invites participating landowners to develop and implement, in collaboration with state and federal agency representatives, site-specific conservation plans aimed at (1) improving stream

flows, (2) protecting and enhancing functional riparian habitat, (3) identifying and reducing or eliminating entrainment threats, and (4) removing barriers to grayling migration.

41. The intent of the CCAA was to entice landowners to participate in the CCAA by providing assurances that they will not be subject to additional regulatory requirements to protect the species were it to be listed under the ESA. For several reasons discussed below, the CCAA does not provide the requisite high level of certainty that its conservation provisions will ensure that the Upper Missouri River DPS of Arctic grayling is not endangered or threatened, and therefore FWS's reliance on the CCAA for that purpose violated the ESA. Furthermore, as a practical matter, FWS's decision in the 12-Month Finding not to list Arctic grayling largely eliminated any incentive for enrolled landowners to continue to participate in the CCAA and for new landowners to enroll. FWS did not take the loss of these incentives into account when relying on future conservation efforts under the CCAA.

ARCTIC GRAYLING AND THE ENDANGERED SPECIES ACT

I. ARCTIC GRAYLING LISTING HISTORY

42. While the realities of a declining Arctic grayling population and deteriorating Arctic grayling habitat have existed for at least the last three decades,

FWS has taken an inadequate and inconsistent approach to implementing essential protections for this species. Despite considering the upper Missouri River population of fluvial Arctic grayling as a candidate for ESA listing as early as 1982, FWS has repeatedly failed to implement actual protections for this population that are both warranted and required under the ESA. Instead, when FWS has acted to address the Arctic grayling's status—and it has done so only when prompted by federal-court litigation—the agency has put forward a host of erroneous legal theories and much flawed science to support its determination not to list.

43. The Biodiversity Legal Foundation (now Center for Biological Diversity) petitioned FWS in 1991 to list the Arctic grayling as an endangered species. In response to the petition and a lawsuit, FWS determined in 1994 that listing the grayling was “warranted but precluded” and assigned it a listing priority number of 9, indicating relatively low priority, based on ongoing conservation efforts. *Finding on a Petition to List the Fluvial Population of the Arctic Grayling as Endangered*, 59 Fed. Reg. 37,738 (July 25, 1994).

44. Responding to severe declines in grayling numbers and chronically low flows in the Big Hole River due to increased irrigation pressure, the Center again sued FWS for failing to protect the grayling. FWS raised the listing priority

of the grayling to a 3, which is the highest priority number afforded a distinct population segment, and agreed to make a determination of the grayling's status by April 2007. However, when the time came for FWS's listing decision, FWS determined the upper Missouri River grayling no longer warranted protection—not because the grayling's status had improved, but rather based on an assertion that it no longer qualified as a DPS. Revised 12-Month Finding for Upper Missouri River DPS of Fluvial Arctic Grayling, 72 Fed. Reg. 20,305 (Apr. 24, 2007). The Center and Western Watersheds Project challenged this decision in federal court as well, resulting in yet another agreement by FWS to determine whether listing was warranted by August 30, 2010.

45. Under this agreement, FWS determined in 2010 that the upper Missouri population does qualify as a distinct population segment that warrants protection, but again determined that protection was precluded by other higher priority listing actions. 75 Fed. Reg. at 54,708. Notwithstanding that determination, on September 9, 2011, as part of a comprehensive settlement of litigation concerning the agency's substantial backlog of ESA listing decisions, FWS reached an agreement with the Center for Biological Diversity stipulating that FWS would submit either a proposed listing rule for the Upper Missouri River

population of Arctic grayling or a not-warranted finding no later than the end of 2014.

II. THE CHALLENGED AGENCY ACTION

46. On August 20, 2014, FWS published a revised 12-month finding reversing its 2010 conclusion that listing of the Arctic grayling under the ESA was “warranted” and instead determining that the Upper Missouri River DPS of Arctic grayling did not warrant listing. In making this determination, FWS disregarded the best available science and improperly relied on voluntary conservation efforts to conclude that the Arctic grayling faces no significant threats that likely will make it become endangered within the foreseeable future within all or a significant portion of its range. FWS’s improper analysis of the five listing factors, including (1) whether grayling are threatened by the inadequacy of existing regulatory mechanisms, (2) whether grayling are threatened by decreasing habitat quality, and (3) whether grayling are threatened by other factors including low population numbers, renders its decision arbitrary, capricious, and contrary to law. FWS also failed to analyze whether the extirpation of Arctic grayling from 96% of their historic habitat in the upper Missouri River ecosystem renders the species threatened or endangered within a significant portion of its range.

A. FWS Failed to Rationally Evaluate Whether Arctic Grayling are Threatened by the Inadequacy of Regulatory Mechanisms

47. FWS's 12-Month Finding is unlawful because it failed to ensure the adequacy of "existing regulatory mechanisms" to prevent acknowledged threats to fluvial Arctic grayling from causing the species to become endangered within the foreseeable future. 16 U.S.C. § 1533(a)(1)(D). In particular, FWS acknowledged that the greatest threats to grayling in the Big Hole River are low stream flows and correspondingly high stream temperatures. Yet the only regulatory mechanism FWS cited that addresses stream flows—the Montana Water Use Act and allocated water rights under that Act—actually inhibit rather than enhance Arctic grayling because of the overallocation of water rights in the upper Missouri River basin. 79 Fed. Reg. at 49,417 (citing Montana Water Use Act and its implementation as "of general concern to Arctic grayling").

48. In response to the serious threats of low stream flows and high temperatures, FWS relied primarily on ongoing and future implementation of the CCAA through voluntary agreements with landowners. Yet FWS failed to properly evaluate those agreements either as "regulatory mechanisms," 16 U.S.C. § 1533(a)(1)(D), or even under its own "policy for the evaluation of conservation efforts," or PECE; see also 16 U.S.C. § 1533(b)(1)(A) (authorizing consideration of state conservation efforts).

49. First, in light of the acknowledged regulatory threat posed by overallocation of water in the Big Hole River, FWS's reliance on non-regulatory measures to counteract this threat was unlawful. 16 U.S.C. § 1533(a)(1)(D) (requiring FWS to evaluate whether species is threatened by the inadequacy of "existing regulatory mechanisms"). Despite repeated optimistic references to ongoing and future implementation of the CCAA and FWS's belief in the success of that agreement to mitigate threats to Arctic grayling, FWS did not even evaluate conservation measures under the CCAA as regulatory mechanisms. See 79 Fed. Reg. at 49,414-17 (evaluating regulatory mechanisms, and omitting any discussion of the CCAA).

50. Even if it had performed the requisite analysis, the voluntary conservation actions prescribed by the CCAA are not adequate "regulatory mechanisms" because they are not enforceable as required by both the plain meaning of the term and applicable case law. Conservation actions under the CCAA lack implementation deadlines and other quantifiable measures of compliance that are prerequisite to "regulatory" action. The acknowledged threats to Arctic grayling due to insufficient stream flows justify listing absent sufficient regulation, and FWS acted improperly when it relied on voluntary assurances in lieu of regulatory guarantees to address these threats. 16 U.S.C. § 1533(a)(1)(D).

51. Second, even if FWS could rely on non-regulatory measures to address these present, known threats to Arctic grayling—and it cannot—the CCAA and voluntary conservation actions identified in the 12-month finding are insufficiently certain to support FWS’s conclusion that listing is not warranted. Although FWS must “tak[e] into account those efforts, if any, being made by any State ... to protect such species,” 16 U.S.C. § 1533(b)(1)(A), FWS may not rely on mere promises of future action such as those set forth in the CCAA. See, e.g., Or. Natural Res. Council v. Daley, 6 F. Supp. 2d 1139, 1155 (D. Or. 1998) (holding “[v]oluntary actions, like those planned in the future, are necessarily speculative” and therefore “voluntary or future conservation efforts by a state should be given no weight in the listing decision”).

52. FWS failed to evaluate the CCAA under the PECE, or even to mention the PECE in the 12-Month Finding. In any event, the CCAA lacks the requisite level of certainty even to satisfy the PECE. FWS improperly relied on conservation efforts to eliminate the need for listing without being “certain that the formalized conservation effort improves the status of the species at the time [it] make[s] a listing determination.” 68 Fed. Reg. at 15,101 (emphasis added). To this end, the PECE requires FWS to assess the adequacy of existing conservation efforts based on two factors—(1) “the certainty of implementing the conservation

effort” and (2) “the certainty that the effort will be effective,” *id.* at 15,113—and provides specific criteria for each of those assessments.

53. Accordingly, FWS’s reliance on the voluntary and uncertain implementation of the CCAA to find that grayling are not threatened by current and future habitat degradation under 16 U.S.C. § 1533(b)(1)(A) was arbitrary and unlawful under the ESA and cannot justify FWS’s decision not to list Montana’s Arctic grayling.

B. FWS Arbitrarily Concluded that Arctic Grayling are Not at Risk Throughout A Significant Portion of their Range

54. FWS failed to consider whether the Arctic grayling’s lost historical range constitutes a basis for listing throughout a significant portion of the species range, instead only analyzing the species’ current range. 79 Fed. Reg. at 49,421-22. However, the species’ current occupied habitat represents only a small fraction of its historically-occupied areas, and constitutes a dramatic contraction of the grayling’s range. Fluvial Arctic grayling, for example, occupy only 4 percent of their historic range in the Upper Missouri River basin.

55. The total extirpation of Arctic grayling populations from vast expanses of historically occupied rivers, lakes and streams warrants a finding that the fish are threatened throughout a significant portion of the species’ range, or at least an explanation from FWS as to why this is not so. However, FWS failed to

even consider whether the Arctic grayling's lost historical range constitutes a basis for listing throughout a significant portion of the species range.

C. FWS Arbitrarily Concluded that Arctic Grayling Are Not Threatened by Their Extremely Small Population Size

56. FWS's review of the ESA listing factors was also inadequate and unlawful because it determined that Arctic grayling are not threatened by small population size, contradicting the best available science and arbitrarily reversing FWS's own prior, contrary determination. See 16 U.S.C. § 1533(a)(1)(E) (requiring FWS to determine whether a species is endangered or threatened because of "other natural or manmade factors affecting its continued existence").

57. In 2010, FWS performed a population viability analysis to determine extinction risk and found that all of the remaining Arctic grayling populations except Mussigbrod Lake were at significant risk of extinction within 30 years. FWS found that the Madison River population has the greatest probability of extinction (36-55 percent), followed by Big Hole (33-42 percent), Red Rock Lakes (31-40 percent), and Miner (13-37 percent). FWS's 2010 analysis did not take into account the effect of random changes in environmental factors, such as drought, instead looking only at demographic and genetic factors; this means that, if anything, FWS's 2010 analysis understated the populations' extinction risks. Although FWS stated that it was unknown whether demographic factors alone

would threaten grayling populations, FWS concluded “that the upper Missouri River DPS of Arctic grayling faces threats from population isolation, loss of genetic diversity, and small population size, which all interact to increase the likelihood that random environmental variation or a catastrophe can extirpate an individual population.” 75 Fed. Reg. at 54,741; see also id. (“Loss of genetic variation relative to the historical condition thus represents a threat to Arctic grayling in the foreseeable future.”).

58. In reversing its position, FWS’s 2014 12-Month Finding relied on a purported increase in Arctic grayling abundance among most of the subpopulations constituting the DPS—including the Big Hole population—based on an extrapolation of “estimated effective population size.” However, FWS failed to address or refute separate population data that undermine FWS’s conclusion. First, at least one comprehensive study, using the same methods FWS employed, contradicts FWS’s claim that the population in the Big Hole is increasing. DeHaan et al., Genetic Monitoring of Arctic Grayling in the Big Hole River and Red Rock Creek and Association with Recent Climate Trends, January 22, 2014, at 16, 29. Second, FWS did not address Montana Fish, Wildlife, and Parks’ Annual Monitoring Reports for Arctic grayling populations, which do not reflect the touted population increases. FWS failed to consider these data in ascertaining the best

available scientific information concerning the population status of Montana's Arctic grayling and arbitrarily failed to explain its omission of these sources of population data or refute their contrary conclusions.

59. Even taking FWS's population estimates at face value, FWS did not claim that these numbers are sufficient for long-term genetic diversity, stating only that there is "considerable debate about what effective population size is adequate to conserve genetic diversity and long-term adaptive potential." 79 Fed. Reg. at 49,418. In its 12-Month Finding, FWS estimated effective population sizes for fluvial Arctic grayling at 12.5 in the Ruby River to 371 in the Big Hole River. In general, the best available scientific information establishes that effective population sizes around 500 are required to maintain long-term genetic diversity. See, e.g., Peterson and Ardren 2009, pp. 1766-7, 1769; Jamieson and Allendorf 2012. Even FWS's optimistic population estimates fall far short of this threshold requirement for long-term genetic viability.

60. FWS also acknowledged that recent increases in abundance and distribution of Arctic grayling in the Big Hole and Rock Creek, a tributary of the Big Hole, are likely due, at least in part, to the introduction by Montana Fish, Wildlife, and Parks of thousands of fry via onsite incubators. 79 Fed. Reg. at 49,408-09. FWS cited no assurance that such introductions will continue.

61. Nevertheless, in an arbitrary and unsubstantiated reversal from the position taken by FWS itself in 2010, FWS stated in its 12-Month Finding that grayling numbers are sufficient to preclude any finding of endangerment under the ESA, id. at 49,418-19.

62. FWS also failed to explain how its current population estimates alter FWS's 2010 conclusion that loss of genetic diversity threatened Arctic grayling. FWS's 2010 conclusion was based on FWS's determination that "[t]he point estimates for genetic effective population sizes observed in the Big Hole River, Miner Lakes, Madison River, and Red Rock Lakes populations are above the level at which inbreeding is an immediate concern, but below the level presumed to provide the genetic variation necessary to conserve long-term adaptive potential." 75 Fed. Reg. at 54,741. The same is true today, yet FWS provided no explanation for determining that such long-term genetic threats warranted listing in 2010, but did not warrant listing in 2014.

63. With respect to the ability of small grayling populations to recover from potential environmental disturbances, FWS's 2014 finding again falls short of legal requirements to rely on the best available science and make a rational finding to support its reversal of the 2010 finding. FWS relied on the geographic separation of the remaining upper Missouri River grayling populations from one

another to address this threat. 79 Fed. Reg. at 49,419 (“Populations of Arctic grayling in the Upper Missouri River DPS are for the most part widely separated from one another, occupying 7 of 10 historically occupied watersheds”). Yet, again, the same separation was present in 2010, when FWS found that listing of the DPS was warranted. Further, to the extent that FWS is relying on the survival of certain subpopulations to make up for the loss of others, such reliance is misplaced with respect to potential loss of the Big Hole River population—the only self-sustaining fluvial population. Having recognized the importance of preserving both the adfluvial and fluvial life histories, FWS must explain why loss of the Big Hole population due to potential environmental disturbance is not a threat to the DPS as a whole.

64. Finally, in the 12-Month Finding, FWS did not perform a new population viability analysis, nor attempt to explain why the conclusions FWS drew from its 2010 analysis were no longer valid. Id. at 49,418-19. As FWS explained in 2010, “smaller populations are more likely to go extinct even if they are stable because they are already close to the extinction threshold, and random environmental events can drive their abundance below that threshold.” 75 Fed. Reg. at 54,741. Thus, simply identifying a population as “stable” does not eliminate extinction risk. FWS’s failure to quantify that risk by performing a new

population viability analysis, or explain why doing so is unnecessary, was arbitrary, because it represents an unsupported reversal from the conclusions of the 2010 finding.

65. Because FWS failed to justify its population estimates in light of conflicting data, failed to employ the best available science with respect to long-term genetic threats, and failed to rationally explain its reversal of its contrary conclusion in 2010, FWS's conclusion that the Arctic grayling's extremely small population size does not warrant ESA listing was arbitrary and unlawful. See 16 U.S.C. § 1533(a)(1)(E) (requiring listing of a species that is threatened by "other natural or manmade factors affecting its continued existence"); id. § 1533(b)(1)(A) (requiring listing determinations to be based on the "best scientific ... data available).

D. FWS Arbitrarily Concluded That Arctic Grayling Are Not at Risk From Decreasing Habitat Quality and Quantity.

66. FWS's determination that Arctic grayling in the upper Missouri River basin are not threatened by "[t]he present or threatened destruction, modification, or curtailment of its habitat or range" also was arbitrary and not based on the best available science, which in fact demonstrates significant and increasing threats to grayling habitat. 16 U.S.C. § 1533(a)(1)(A).

67. FWS acknowledged that one of the most pressing threats to the survival of the grayling is water withdrawal from the Big Hole River. See 75 Fed. Reg. at 54,728 (“Especially in the Big Hole River, dewatering from irrigation represents a past and present threat to Arctic grayling.”). Yet FWS failed to rationally analyze whether such continued withdrawals constitute a threat to the species that warrants listing.

68. Water withdrawals diminish habitat for grayling by reducing available space, increasing maximum water temperatures, stranding eggs and young fish, increasing inter- and intra-specific predation by concentrating young and adult fish in remnant waters, and reducing food availability by reducing habitat for aquatic invertebrates. Higher water temperatures also favor nonnative fish species such as brown trout that compete with grayling. In the Big Hole River, irrigation “has substantially altered the natural hydrologic function of the river and has led to acute and chronic stream dewatering.” Id. at 54,727.

69. This dewatering, largely due to irrigated agriculture and ranching, is the most likely cause of an approximately 50 percent reduction in the Big Hole population from the early 1990s to the early 2000s and is continuing to depress the existing population. Id. at 54,723. Low flows caused by dewatering lead to higher water temperatures, as is currently observed in the Big Hole River. Summer water

temperatures consistently exceed 70 degrees in this river, which is above the 68 degree threshold for temperatures considered to be physiologically stressful for grayling—and several monitoring stations recorded temperatures above 77 degrees at some point during the monitoring season, May 1 to October 1. See Arctic Grayling Monitoring Report 2013 at 6. Similar effects have been observed in the Madison River and Red Rock watersheds. Thermal fish kills in the Big Hole River have been documented, but even at water temperatures below the level for instant fish kills, individual fish still may suffer from chronic stress that impairs feeding and growth and ultimately reduces survival and reproduction.

70. FWS's primary response to this ongoing concern was that the CCAA is improving flow conditions in the Big Hole. However, this was not a rational or justifiable response under the ESA. First, FWS's reliance on future implementation of the CCAA when analyzing "[t]he present or threatened destruction, modification, or curtailment of its habitat or range" under listing factor A was unlawful. 16 U.S.C. § 1533(a)(1)(A). Having acknowledged the threat posed to grayling by low stream flows and high stream temperatures, FWS was required to assess whether the CCAA is an adequate regulatory mechanism to alleviate that threat. 16 U.S.C. § 1533(a)(1)(D). As described above, however, FWS never conducted this requisite analysis and if it had, the CCAA would not

have passed proper scrutiny as a regulatory mechanism or even as a voluntary conservation effort because, among other things, it omits specific objectives tied to conservation of grayling, lacks a funding commitment, provides an inadequate schedule for completing and evaluating conservation measures, and contains inadequate provisions for monitoring and reporting implementation progress. Specific to the issue at hand, the CCAA lacks a requirement to maintain flows in the Big Hole at a level that does not pose a threat to the grayling.

71. Even if FWS could rely on continued implementation or future actions under the CCAA to find that threats to grayling habitat already have been eliminated, the agreement is inadequate to ameliorate the degradation of grayling habitat. The CCAA's goal is to achieve flow targets 75 percent of the days in years of average or greater snowpack. 79 Fed. Reg. at 49,404. In other words, even if the CCAA is meeting its "goal," flows may be below target levels one out of every four days even in years with average snowpack. The CCAA contains no flow targets at all for years in which snowpack is below average—and both 2012 and 2013 had below-average snowpack—even though below-average years are the years when low flows and high water temperatures are most likely to impair the grayling population. Furthermore, FWS conceded that "many other factors influence instream flows in the Big Hole River that are outside the control of

landowners (e.g., snowpack, precipitation).” Id. Therefore the CCAA does not eliminate the threat to grayling posed by low stream flows.

72. Further, the CCAA does nothing at all to address low flows and high water temperatures affecting grayling populations outside of the Big Hole River. As FWS acknowledged in 2010, “the Big Hole River constitutes one population in the DPS and high water temperatures are likely to continue to affect grayling in the Madison River and Red Rock Lakes. Thus, stream dewatering and high water temperatures are expected to remain a threat to the DPS in the foreseeable future.” 75 Fed. Reg. at 54,728. FWS nonetheless dismissed this threat in the challenged decision by asserting that “grayling in these systems appear to be able to cope with these temperatures by using cooler tributaries and spring sources as thermal refugia.” Id. (citing Jaeger 2014b, pers. comm.). FWS’s only citation for its optimistic speculation about grayling’s coping skills was an email containing some speculation as to the benefits of thermal refugia. FWS failed to explain how this email constitutes the best available science when average temperatures in these waterbodies exceed the level FWS previously deemed to be a threat.

73. Exacerbating FWS’s failure to adequately address the current threat to grayling caused by low flows and high stream temperatures, FWS arbitrarily dismissed the compounding effects of climate change that is expected to

exacerbate this threat. Both water temperature and stream flow are sensitive to climate change. For example, observations on flow timing in the Big Hole, Upper Madison, and Red Rock Creek already “indicate a tendency toward earlier snowmelt runoff (Wenger et al. 2011, entire; Towler et al. 2013, entire; De Haan et al. 2014, p. 41). These hydrologic alterations may be biologically significant for Arctic grayling in the Missouri River basin because they typically spawn prior to the peak of snowmelt runoff.” 79 Fed. Reg. at 49,406. In addition to earlier snowmelt, warmer temperatures harm grayling by increasing stream temperatures. Recent climate analyses in the Big Hole River Valley and Centennial Valley indicate that air temperatures rose between 1.8 and 3.2 degrees Fahrenheit per decade from the 1980s to mid-2000s. And FWS acknowledged that the land area of the upper Missouri River basin is predicted to warm even more through the end of the century.

74. Acknowledging this reality, FWS in 2010 concluded that grayling habitat is vulnerable to the effects of climate warming, and that climate change may contract the species’ range and “increase the species’ risk of extinction over the next 30 to 40 years as climate impacts interact with existing stressors such as habitat degradation, stream dewatering, drought, and interactions with nonnative

trout that are already affecting the DPS.” 75 Fed. Reg. at 54,740. FWS concluded in 2010 that the CCAA would not ameliorate this risk for the DPS. Id.

75. Despite evidence of the current and growing impacts of climate change and FWS’s 2010 finding, FWS confronted the effects of climate change in its 2014 12-Month Finding with guesswork instead of science. In the face of undisputed warming, FWS relied on the asserted capability of the Big Hole River and Centennial Valley Arctic grayling to increase their “abundance and distribution despite a warming climate.” 79 Fed. Reg. at 49,407. FWS’s speculation that grayling may adapt to ever lower flows and higher stream temperatures in an inevitably warming climate does not constitute the best available science and cannot support FWS’s decision that grayling are not threatened.

76. Arctic grayling face other forms of habitat destruction as well. In 2010, FWS acknowledged that degradation of the Big Hole River has dramatically reduced the suitability of grayling habitat, including shifts in channel form, increased erosion rates, reduced cover, and reduced recruitment of large wood debris. 75 Fed. Reg. at 54,729. In reaching its challenged finding that this threat does not warrant listing, FWS again relied on the Big Hole CCAA. As with FWS’s reliance on the CCAA to address low stream flows, FWS’s reliance on

future implementation of the CCAA to address these additional ongoing threats to grayling without evaluating whether the CCAA is an adequate regulatory mechanism was unlawful. 16 U.S.C. § 1533(a)(1)(D). In addition, FWS's determination that the CCAA alleviates this threat was arbitrary. Today in the Big Hole, only half of the stream miles in the CCAA Management Area are enrolled in the CCAA: 170 miles of riparian habitat, out of 340 miles of total riparian habitat. Of the enrolled habitat, only 65 percent (110 miles) is improving in condition. Less than half of the habitat enrolled in the CCAA is currently functioning at a sustainable level (80 miles out of 340 miles of total habitat). 79 Fed. Reg. at 49,402. A "sustainable" rating indicates that the area is acting as a healthy riparian zone, with access to its floodplain among other criteria. Although FWS concluded that this extremely limited improvement, as well as the promise of future improvement through the CCAA adaptive management, is sufficient to address the current threat of habitat degradation, FWS failed to support its conclusion with any analysis. In particular, the agency did not analyze whether only 80 miles of sustainable habitat is sufficient to support the Arctic grayling population in the Big Hole. FWS also did not assess habitat quality for the Ruby River population, despite relying on this population to provide redundancy for the fluvial life history in the event of extirpation of the Big Hole population. Absent such rational

analysis, FWS's reversal of its 2010 determination that habitat degradation threatens Arctic grayling was arbitrary.

77. Because its cavalier treatment of serious threats to Arctic grayling habitat, both quantity and quality, lacked rationale support and ignored the best available scientific information, FWS's conclusion that grayling are not threatened by habitat loss and degradation was arbitrary. 16 U.S.C. § 1533(a)(1)(A), (b)(1)(A).

FIRST CAUSE OF ACTION
(Violation of Endangered Species Act –Failure to analyze the adequacy of existing regulatory mechanisms)

78. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 77.

79. FWS violated ESA section 4, 16 U.S.C. § 1533, in issuing its 12-Month Finding because FWS relied on voluntary conservation actions that it deemed necessary to prevent acknowledged threats to fluvial Arctic grayling from causing the species to become endangered within the foreseeable future without properly evaluating these actions as “regulatory mechanisms.” Id. § 1533(a)(1)(D).

80. Because FWS impermissibly relied on unenforceable and voluntary conservation efforts to address threats to grayling and failed to evaluate these as

regulatory mechanisms as required, its conclusions were arbitrary and capricious and in violation of the ESA. 16 U.S.C. § 1533(a)(1), (a)(1)(D); 5 U.S.C. § 706(2).

SECOND CAUSE OF ACTION

(Violation of Endangered Species Act – Arbitrary and capricious evaluation of threats to the species from low population size)

81. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 80.

82. FWS violated ESA section 4 in issuing its 12-Month Finding because FWS failed to follow the best available science, disregarded record evidence, and irrationally reversed its prior determination in concluding that the fluvial Arctic grayling is not threatened by “other natural or manmade factors affecting its continued existence,” particularly its small population size. 16 U.S.C. § 1533(a)(1)(E).

83. Because FWS impermissibly disregarded the best evidence and available science and irrationally reversed its prior determination, its conclusions were arbitrary and capricious and in violation of the ESA. 16 U.S.C. § 1533(a)(1), (a)(1)(E); 5 U.S.C. § 706(2)

THIRD CAUSE OF ACTION

(Violation of Endangered Species Act – Arbitrary and capricious evaluation of threats to the species from habitat destruction and curtailment)

84. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 83.

85. FWS violated ESA section 4 in issuing its 12-Month Finding because its determination that Arctic grayling in the upper Missouri River basin are not threatened by “[t]he present or threatened destruction, modification, or curtailment of its habitat or range” is arbitrary, relies on uncertain future actions, and is not based on the best available science. 16 U.S.C. § 1533(a)(1)(A), (b)(1)(A).

86. Because FWS impermissibly dismissed significant threats to habitat and relied on uncertain and voluntary future actions, its conclusions were arbitrary and capricious and in violation of the ESA. 16 U.S.C. § 1533(a)(1), (a)(1)(A), (b)(1)(A); 5 U.S.C. § 706(2).

FOURTH CAUSE OF ACTION
(Violation of Endangered Species Act - Failure to analyze threats to Arctic grayling throughout a significant portion of its range)

87. Plaintiffs hereby reallege and incorporate Paragraphs 1 through 86.

88. In addition to threats within currently occupied Arctic grayling habitat, grayling populations are also threatened in a significant portion of their overall range due to the substantial contraction of the species’ historical range.

89. FWS’s contrary conclusion in its 12-Month Finding was arbitrary, capricious, an abuse of discretion, and otherwise contrary to the ESA, 16 U.S.C. § 1533(a), (b).

PRAYER FOR RELIEF

THEREFORE, plaintiffs respectfully request that the Court:

1. Declare that FWS acted arbitrarily and capriciously and violated the ESA in issuing the 12-Month Finding;
2. Set aside and remand the 12-Month Finding for further analysis and agency action consistent with this Court's decision;
3. Award plaintiffs their reasonable fees, costs, and expenses, including attorneys fees, associated with this litigation; and
4. Grant plaintiffs such further and additional relief as the Court may deem just and proper.

Respectfully submitted this 5th day of February, 2015.

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